



SEQUENCE LISTING

<110> SARCABAL, PATRICIA
CROUX, CHRISTIAN
SOUCAILLE, PHILIPPE

<120> METHOD FOR PREPARING 1,3-PROPANEDIOL BY A RECOMBINANT
MICRO-ORGANISM IN THE ABSENCE OF COENZYME B12 OR ONE OF
ITS PRECURSORS

<130> CHEP:004US

<140> 10/043,639

<141> 2002-01-09

<150> PCT/FR00/01981

<151> 2000-07-07

<150> FR 99/08939

<151> 1999-07-09

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<170> PatentIn Ver. 2.1

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Ser	Met	Ser	Cys	Leu	Trp	Cys	Ser	Asn	Pro	Glu	Ser	Gln	Asp	Ile	Lys
		35					40					45			
Pro	Gln	Val	Met	Phe	Asn	Lys	Asn	Leu	Cys	Thr	Lys	Cys	Gly	Arg	Cys
	50					55					60				
Lys	Ser	Gln	Cys	Lys	Ser	Ala	Gly	Ile	Asp	Met	Asn	Ser	Glu	Tyr	Arg
65					70				75						80
Ile	Asp	Lys	Ser	Lys	Cys	Thr	Glu	Cys	Thr	Lys	Cys	Val	Asp	Asn	Cys
				85					90					95	
Leu	Ser	Gly	Ala	Leu	Val	Ile	Glu	Gly	Arg	Asn	Tyr	Ser	Val	Glu	Asp
		100						105					110		
Val	Ile	Lys	Glu	Leu	Lys	Lys	Asp	Ser	Val	Gln	Tyr	Arg	Arg	Ser	Asn
		115					120					125			
Gly	Gly	Ile	Thr	Leu	Ser	Gly	Gly	Glu	Val	Leu	Leu	Gln	Pro	Asp	Phe
	130					135					140				
Ala	Val	Glu	Leu	Leu	Lys	Glu	Cys	Lys	Ser	Tyr	Gly	Trp	His	Thr	Ala
145					150					155					160
Ile	Glu	Thr	Ala	Met	Tyr	Val	Asn	Ser	Glu	Ser	Val	Lys	Lys	Val	Ile
				165					170					175	
Pro	Tyr	Ile	Asp	Leu	Ala	Met	Ile	Asp	Ile	Lys	Ser	Met	Asn	Asp	Glu
			180					185					190		
Ile	His	Arg	Lys	Phe	Thr	Gly	Val	Ser	Asn	Glu	Ile	Ile	Leu	Gln	Asn
		195					200					205			
Ile	Lys	Leu	Ser	Asp	Glu	Leu	Ala	Lys	Glu	Ile	Ile	Ile	Arg	Ile	Pro
	210					215					220				
Val	Ile	Glu	Gly	Phe	Asn	Ala	Asp	Leu	Gln	Ser	Ile	Gly	Ala	Ile	Ala
225					230					235					240
Gln	Phe	Ser	Lys	Ser	Leu	Thr	Asn	Leu	Lys	Arg	Ile	Asp	Leu	Leu	Pro
				245					250					255	

Tyr His Asn Tyr Gly Glu Asn Lys Tyr Gln Ala Ile Gly Arg Glu Tyr
260 265 270

Ser Leu Lys Glu Leu Lys Ser Pro Ser Lys Asp Lys Met Glu Arg Leu
275 280 285

Lys Ala Leu Val Glu Ile Met Gly Ile Pro Cys Thr Ile Gly Ala Glu
290 295 300

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<211> 385

<212> PRT

<213> Clostridium butyricum

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Met Arg Met Tyr Asp Tyr Leu Val Pro Ser Val Asn Phe Met Gly Ala
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Asn Ser Val Ser Val Val Gly Glu Arg Cys Lys Ile Leu Gly Gly Lys
20 25 30

Lys Ala Leu Ile Val Thr Asp Lys Phe Leu Lys Asp Met Glu Gly Gly
35 40 45

Ala Val Glu Leu Thr Val Lys Tyr Leu Lys Glu Ala Gly Leu Asp Val
50 55 60

Val Tyr Tyr Asp Gly Val Glu Pro Asn Pro Lys Asp Val Asn Val Ile
65 70 75 80

Glu Gly Leu Lys Ile Phe Lys Glu Glu Asn Cys Asp Met Ile Val Thr
85 90 95

Val Gly Gly Gly Ser Ser His Asp Cys Gly Lys Gly Ile Gly Ile Ala
100 105 110

Ala Thr His Glu Gly Asp Leu Tyr Asp Tyr Ala Gly Ile Glu Thr Leu
115 120 125

Val Asn Pro Leu Pro Pro Ile Val Ala Val Asn Thr Thr Ala Gly Thr
130 135 140

Ala Ser Glu Leu Thr Arg His Cys Val Leu Thr Asn Thr Lys Lys Lys

145					150				155				160			
Ile	Lys	Phe	Val	Ile	Val	Ser	Trp	Arg	Asn	Leu	Pro	Leu	Val	Ser	Ile	
				165				170				175				
Asn	Asp	Pro	Met	Leu	Met	Val	Lys	Lys	Pro	Ala	Gly	Leu	Thr	Ala	Ala	
				180				185				190				
Thr	Gly	Met	Asp	Ala	Leu	Thr	His	Ala	Ile	Glu	Ala	Tyr	Val	Ser	Lys	
				195				200				205				
Asp	Ala	Asn	Pro	Val	Thr	Asp	Ala	Ser	Ala	Ile	Gln	Ala	Ile	Lys	Leu	
				210				215				220				
Ile	Ser	Gln	Asn	Leu	Arg	Gln	Ala	Val	Ala	Leu	Gly	Glu	Asn	Leu	Glu	
225				230				235				240				
Ala	Arg	Glu	Asn	Met	Ala	Tyr	Ala	Ser	Leu	Leu	Ala	Gly	Met	Ala	Phe	
				245				250				255				
Asn	Asn	Ala	Asn	Leu	Gly	Tyr	Val	His	Ala	Met	Ala	His	Gln	Leu	Gly	
				260				265				270				
Gly	Leu	Tyr	Asp	Met	Ala	His	Gly	Val	Ala	Asn	Ala	Met	Leu	Leu	Pro	
				275				280				285				
His	Val	Glu	Arg	Tyr	Asn	Met	Leu	Ser	Asn	Pro	Lys	Lys	Phe	Ala	Asp	
290				295				300								
Ile	Ala	Glu	Phe	Met	Gly	Glu	Asn	Ile	Ser	Gly	Leu	Ser	Val	Met	Glu	
305				310				315				320				
Ala	Ala	Glu	Lys	Ala	Ile	Asn	Ala	Met	Phe	Arg	Leu	Ser	Glu	Asp	Val	
				325				330				335				
Gly	Ile	Pro	Lys	Ser	Leu	Lys	Glu	Met	Gly	Val	Lys	Gln	Glu	Asp	Phe	
				340				345				350				
Glu	His	Met	Ala	Glu	Leu	Ala	Leu	Leu	Asp	Gly	Asn	Ala	Phe	Ser	Asn	
				355				360				365				
Pro	Arg	Lys	Gly	Asn	Ala	Lys	Asp	Ile	Ile	Asn	Ile	Phe	Lys	Ala	Ala	
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Tyr																
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<212> DNA

<213> Artificial Sequence

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Primer

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<212> DNA

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34

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<212> DNA

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31

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<223> Description of Artificial Sequence: Synthetic
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<400> 14

ttagatcttt taaatagtat taattaataa gcagcc

36